REMARKS

The Office Action of October 20, 2004 has been received and reviewed. This response is directed to that action.

Claim Rejections—35 U.S.C.§112

The Examiner rejected claim under 35 U.S.C. §112, second paragraph as indefinite because claim 3 is redundant in that it recites a limitation that is already contained in claim 1. Claim 3 has been cancelled in this response, thus obviating the rejection.

Claim Rejections—35 U.S.C. §103

The Examiner rejected claims 1-12 under 35 U.S.C. §103(a) as being unpatentable over Berlowitz et al. (WO 99/13031). The Examiner stated that Berlowitz et al. teaches all of the limitations of the present claims, except that Berlowitz does not specifically teach the particle size of the hydrocarbon fuel in the emulsion, or the viscosity of the emulsion. However, the Examiner asserted that it would have been obvious to one of skill in the art to optimize the shearing conditions to achieve the best particle size. Applicants respectfully disagree as to this point.

Berlowitz et al. simply teaches an emulsion blend which comprises a fuel-in-water emulsion and a surfactant. The problem that Berlowitz solves is reducing the amount of expensive surfactant in an emulsion by blending a Fischer-Tropsch derived hydrocarbon to help stabilize the emulsion (see page 1, paragraph 4 and page 2, paragraph 1). Berlowitz et al. makes no mention of improving particulate emissions by reducing the hydrocarbon particle size.

Contrarily, the present invention attempts to solve the problem of high particulate emissions by making the hydrocarbon particle size 1 micron or less. The application clearly shows in comparative example 1 and examples 1 and 2 that the particle size correlates directly to particulate emissions.

To establish a *prima facie* case for obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references so as to teach or suggest all of the limitations of the present claim. Here, Berlowitz et al. never teaches or suggests that emissions are improved by smaller particle sizes or even to that particle size of the hydrocarbon affects the emulsion in *any* way. In fact, Berlowitz never even mentions the words "particle size". Furthermore, the Examiner has not shown that the knowledge that particle sizes of 1 micron or less improve emissions was generally available to one of skill in the art. Therefore, based on the foregoing reasons, the Examiner has not established a *prima facie* case for obviousness, and the applicants respectfully request that this rejection be withdrawn.

The Examiner also rejected claims 1-12 under 35 U.S.C. §103(a) as obvious over Rivas et al. (EP 1 152 049).

Rivas et al. discloses a water-in-hydrocarbon fuel emulsion that is useful as a low-emission fuel, and which has an average droplet size of between 0.5 to 2.0 microns.

Claim 1 has been amended to limit the emulsion of the present invention to a hydrocarbon-in-water emulsion. This means that, in the emulsion, the hydrocarbon is in the dispersed phase and water is in the continuous phase. This is quite different from

a water-in-hydrocarbon emulsion of Rivas et al., where water is in the disperse phase and hydrocarbon is in the continuous phase.

This difference is significant and fundamental because whether the fuel is in the continuous phase or the dispersed phase affects the stability, amount and, most the purpose of the emulsion. Moreover, the method of making an emulsion differs based on which elements are continuous and which are dispersed.

Therefore, the emulsion of Rivas *is* different than in the present invention and there is no teaching that suggests that Rivas could be a hydrocarbon-in-water emulsion. Because all of the limitations of the present invention are *not* taught in Rivas, the *prima facie* case for obiviousness fails, and applicants respectfully request that this rejection be withdrawn.

The applicants believe the claims as amended are in condition for allowance, and respectfully request such action. If any issues remain, the resolution of which can be advanced via teleconference, the Examiner is invited to contact the applicants attorney at the number listed below.

Respectfully submitted,

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[X] Pursuant to 37 CFR 1.34(a)

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